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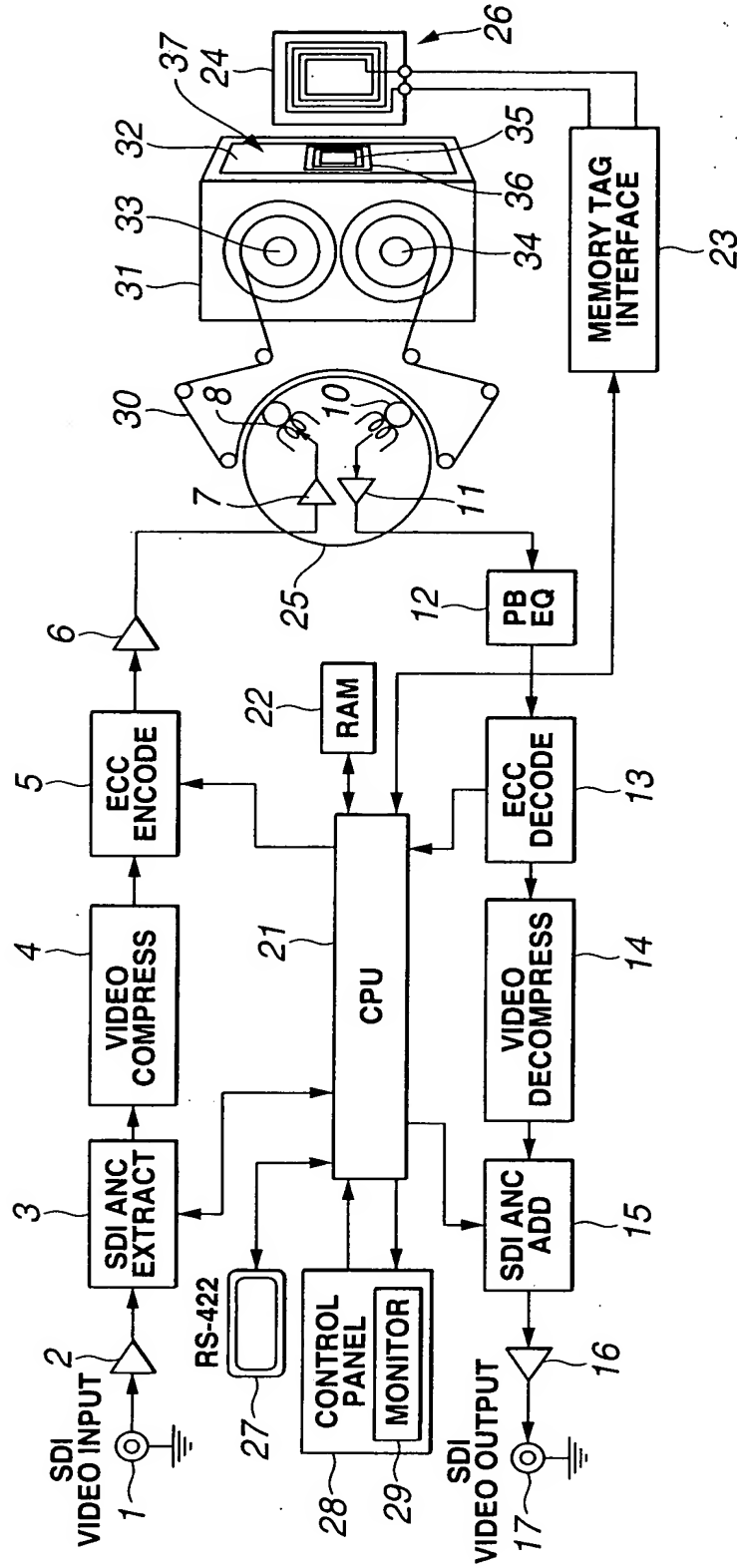


FIG.1

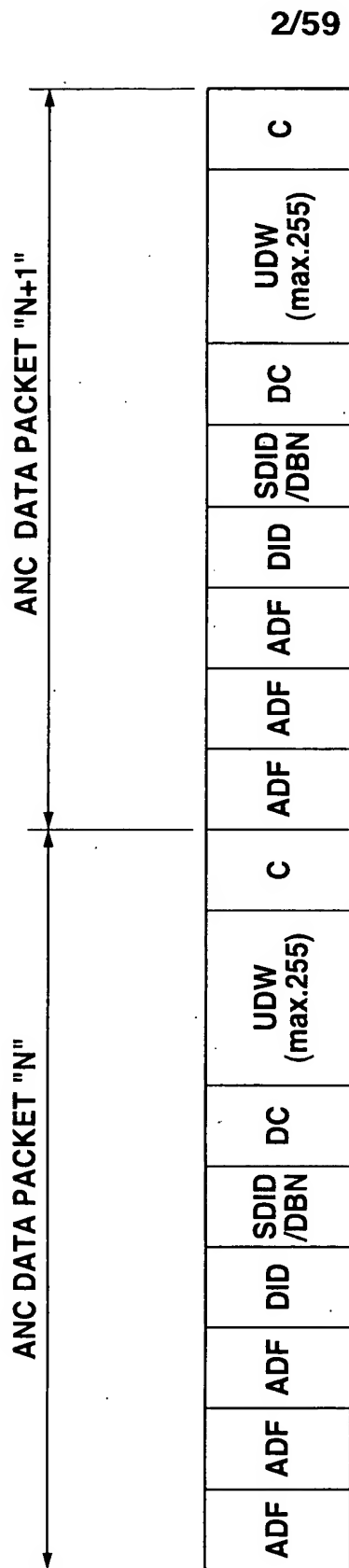


FIG.2

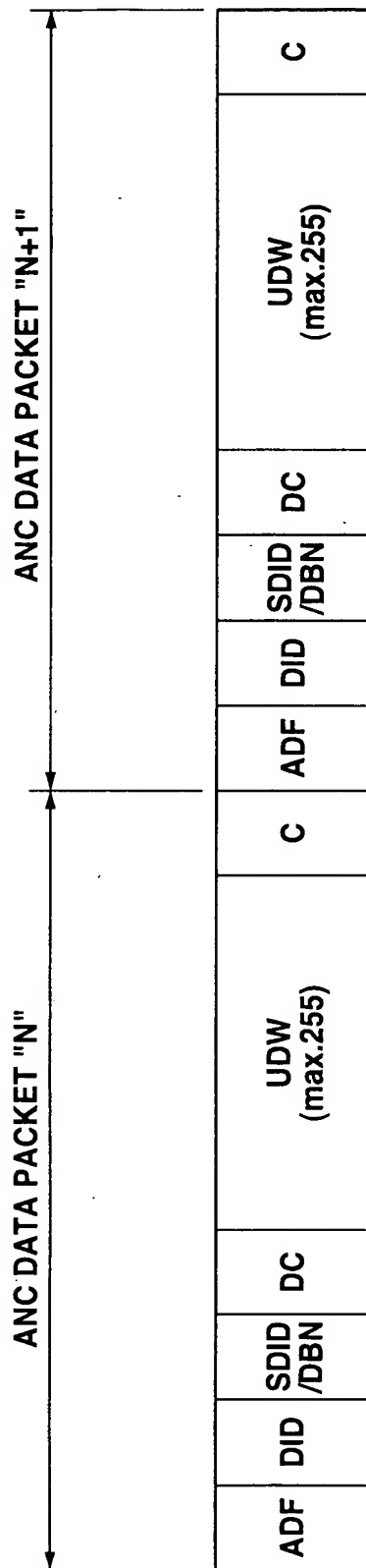


FIG.3

SMPTE label								DESCRIPTION	Value Length	Value Range
01	00	00	00	00	00	00	00	CLASS 1 ID AND LOCATOR		
01	01	00	00	00	00	00	00	GLOBALLY UNIQUE ID		
01	01	01	xx	Null	Null	Null	Null	UMID VIDEO		
01	01	02	xx	Null	Null	Null	Null	UMID AUDIO		
01	01	03	xx	Null	Null	Null	Null	UMID DATA		
01	01	04	xx	Null	Null	Null	Null	UMID SYSTEM		
01	01	10	00	00	00	00	00	INTERNATIONAL BROADCASTING STATION ID		
01	01	10	01	00	00	00	00	ORGANIZATION CATEGORY	127 bytes max.	
01	01	10	03	00	00	00	00	PROGRAM ID		
01	01	10	03	01	00	00	00	UPID		
01	01	10	03	02	00	00	00	UPN		
01	01	10	04	00	00	00	00	MEDIUM ID		
01	01	10	04	01	00	00	00	SAME AS LINE 64		
01	01	10	04	01	00	00	00	EBU ID NO		
01	01	11	00	00	00	00	00	ISO ID		
01	01	11	01	00	00	00	00	ISO AUDIO VISUAL NO.		
01	01	11	02	00	00	00	00	ISO BOOK NO.		
01	01	11	03	00	00	00	00	ISO SERIAL NO.		
01	01	11	04	00	00	00	00	ISO MUSICAL WORK CODE		
01	01	11	05	00	00	00	00	ISO PRINTED MUSIC NO.		
01	01	11	06	00	00	00	00	ISO COMMERCIAL ID		
01	01	11	07	00	00	00	00	ISO RECORDING CODE		
01	01	11	08	00	00	00	00	ISO REPORT NO.		
01	01	11	09	00	00	00	00	ISO GLOSSARY		
01	01	11	0A	00	00	00	00	ISO TEXTUAL WORK CODE		
01	01	13	01	00	00	00	00	DIGITAL OBJECT ID		
01	01	14	00	00	00	00	00	COMPOSITE ID		
01	01	14	01	00	00	00	00	SERIAL ITEM AND CONTRIBUTION ID		
01	01	14	02	00	00	00	00	BOOK ITEM AND COMPONENT ID		
01	01	14	03	00	00	00	00	AUDIO VISUAL ITEM AND COMPONENT ID		
01	01	14	04	00	00	00	00	DESTINATION ID		
01	01	15	00	00	00	00	00	SAME AS LINE 66		
01	01	15	01	00	00	00	00	INTERNET GLOBALLY UNIQUE ID		

FIG.4

SMPTE label								DESCRIPTION	Value Length	Value Range
01	03	02	02	00	00	00	00	SLOT ID	4 bytes	
01	03	02	03	00	00	00	00	OBJECT TEXT ID		
01	03	02	03	01	00	00	00	GROUP NAME	variable	
01	03	02	03	02	00	00	00	SLOT NAME	variable	
01	03	02	03	03	00	00	00	OBJECT NAME	variable	
01	04	05	00	00	00	00	00	LOCAL LOCATOR		
01	04	05	01	00	00	00	00	LOCAL MEDIUM LOCATOR		
01	04	05	01	01	00	00	00	LOCAL FILE PASS	127 bytes max.	
01	04	05	03	00	00	00	00	FILM LOCATOR		
01	04	05	03	01	00	00	00	EDGE CODE	32 chars max.	
01	04	05	03	02	00	00	00	FRAME CODE	32 chars max.	
01	04	05	03	03	00	00	00	KEY CODE	4 bytes	
01	04	05	03	04	00	00	00	Ink NO	32 chars max.	
01	04	05	03	05	00	00	00	SEGMENT START CODE	8 bytes	
01	04	10	00	00	00	00	00	PROXY LOCATOR		
01	04	10	01	00	00	00	00	PROXY TEXT	127 bytes max.	
01	04	10	02	00	00	00	00	PROXY FRAME	127 bytes max.	
01	04	10	03	00	00	00	00	PROXY SOUND	127 bytes max.	
01	04	10	04	00	00	00	00	KEY DATA	127 bytes max.	
01	04	11	00	00	00	00	00	HANDWRITE		
01	05	11	01	00	00	00	00	HANDWRITTEN NAME	variable	
01	05	01	00	00	00	00	00	TITLE		
01	05	01	01	00	00	00	00	TITLE TYPE	127 bytes max.	
01	05	01	02	00	00	00	00	MAIN TITLE	127 bytes max.	
01	05	01	03	00	00	00	00	SUB TITLE	127 bytes max.	
01	05	01	04	00	00	00	00	SERIES NO.	32 chars max.	
01	05	01	05	00	00	00	00	EPISODE NO.	32 chars max.	
01	05	01	06	00	00	00	00	SCENE NO.	32 chars max.	
01	05	01	07	00	00	00	00	TAKE NO.	2 bytes	
01	10	00	00	00	00	00	00	OWNER		
01	10	01	00	00	00	00	00	OWNER UNDER CISAC		
01	10	01	01	00	00	00	00	CONTACT PERSON		
01	10	02	00	00	00	00	00	ID UNDER AGICOA		

FIG.5

SMPTE label								DESCRIPTION	Value Length	Value Range
04	01	01	00	00	00	00	00	VIDEO'S BASIC CHARACTERISTIC		
04	01	01	01	00	00	00	00	VIDEO SOURCE DEVICES AND APPARATUSES	32 chars max.	
04	01	01	02	00	00	00	00	OE CONVERSION METHOD		
04	01	01	02	01	00	00	00	GAMMA CHARACTERISTIC		
04	01	01	02	01	01	00	00	GAMMA FORMULA	4 chars max.	See types dictionary
04	01	01	02	01	02	00	00	GAMMA	8 bytes	
04	01	01	02	02	00	00	00	BRIGHTNESS COMPUTATION	4 chars max.	See types dictionary
04	01	01	02	03	00	00	00	COLORIMETRI CODE	4 chars max.	See types dictionary
04	01	01	03	00	00	00	00	SCANNING INFORMATION		
04	01	01	03	01	00	00	00	COMPONENT SEQUENCE	4 chars max.	See types dictionary
04	01	01	03	02	00	00	00	COLOR FRAME INDEX	1 bytes	00h=default,01h-07h=field number
04	01	01	03	03	00	00	00	VERTICAL RATE	1 bytes	See types dictionary
04	01	01	03	04	00	00	00	FRAME RATE	1 bytes	See types dictionary
04	01	01	04	00	00	00	00	ASPECT RATIO	1 bytes	See types dictionary
04	01	01	00	01	00	00	00	NO. OF LINES		
04	01	01	01	01	01	00	00	TOTAL NO. OF LINES/FRAME	2 bytes	
04	01	01	02	01	02	00	00	ACTIVE LINES/FRAME	2 bytes	
04	01	01	03	01	03	00	00	LEADING EDGE	4 bytes	
04	01	01	04	01	04	00	00	TRAILING EDGE	4 bytes	
04	01	01	04	02	00	00	00	ASPECT RATIO STANDARD		
04	01	01	04	02	01	01	00	ASPECT RATIO		
04	01	01	04	02	01	01	01	IMAGE ASPECT RATIO	1 bytes	
04	01	01	04	02	01	01	02	SAME AS ABOVE	8 bytes	
04	01	01	04	02	01	02	00	ASPECT RATIO BY SENSOR	1 bytes	See types dictionary
04	01	01	04	02	02	00	00	STORAGE HEIGHT	4 bytes	
04	01	01	04	02	03	00	00	STORAGE WIDTH	4 bytes	
04	01	01	04	02	04	00	00	SAMPLE HEIGHT	4 bytes	
04	01	01	04	02	05	00	00	SAMPLE WIDTH	4 bytes	
04	01	01	04	02	06	00	00	SAMPLE X OFFSET	4 bytes	
04	01	01	04	02	07	00	00	SAMPLE Y OFFSET	4 bytes	
04	01	01	04	02	08	00	00	DISPLAY HEIGHT	4 bytes	
04	01	01	04	02	09	00	00	DISPLAY WIDTH	4 bytes	
04	01	01	04	02	0A	00	00	DISPLAY X OFFSET	4 bytes	

FIG.6

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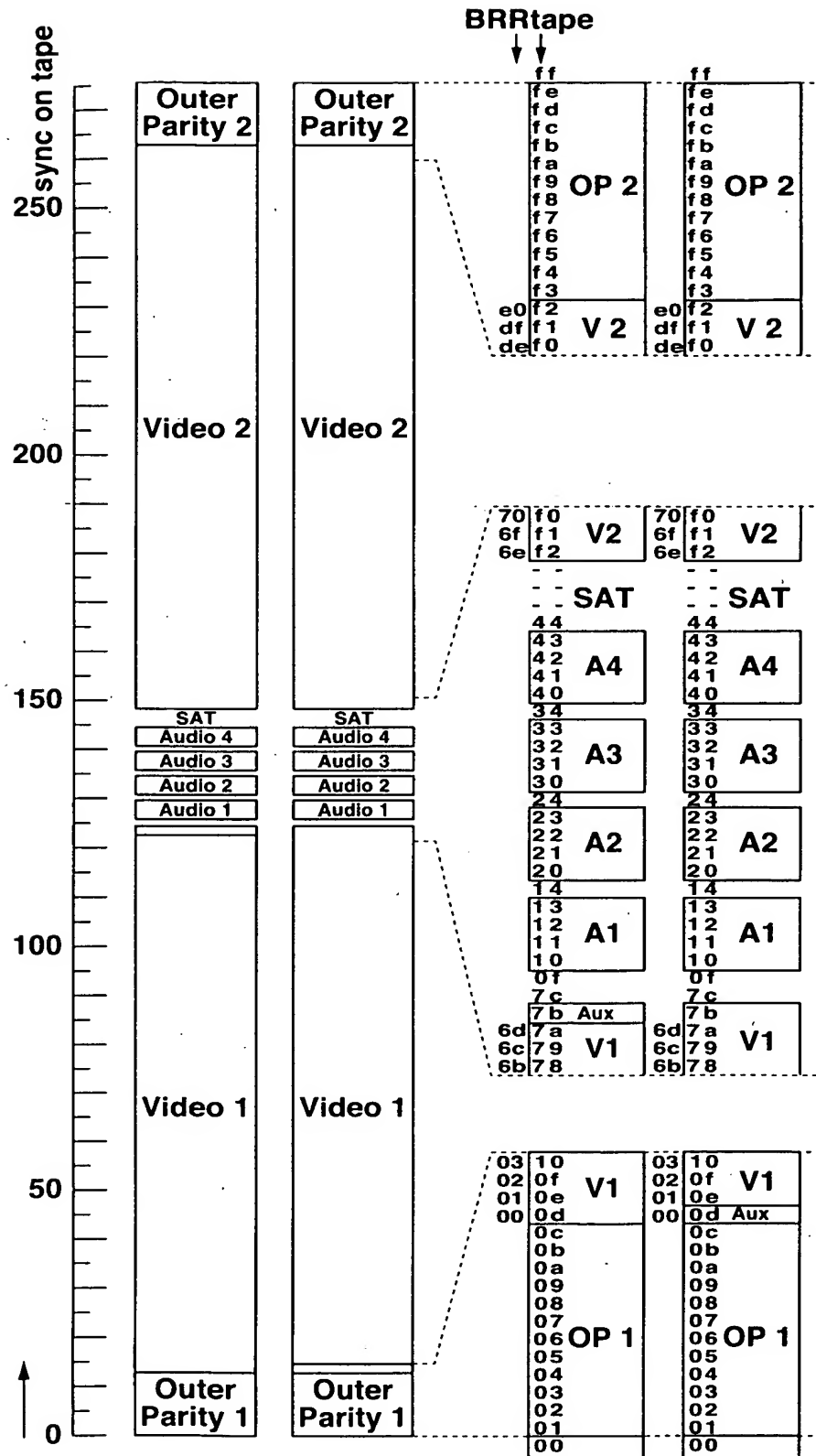


FIG.7

Category	Data No.	Byte Count	Assignment
1	D0 --> D33	34	Activity Map
	D34 --> D35	2	Reserved
2	D36 --> D39	4	VITC TC
	D40 --> D43	4	VITC UB
	D44	1	Check Sum of VITC
	D45	1	Reserved
3	D46 --> D47	2	REC ID
	D48 --> D51	4	Reserved
4	D52 --> D53	2	Model Name
	D54 --> D56	3	VTR Serial No.
	D57	1	Destination
5	D58 --> D61	4	Date of Recording
6	D62	1	VTR status
	D63 --> D67	5	Reserved
7	D68 --> D125	58	Reserved
8	D126 --> D169	44	Meta-data
9	D170 --> D215	46	Reserved
10	D216	1	Not Used

FIG.8

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Category	Assignment	Data No.	DESCRIPTION
2	VITC TC	D36 --> D39	VITC TC data D36:Frame D37:Second D38:Minute D39:Hour
	VITC UB	D40 --> D43	VITC TC data D36:Frame D37:Second D38:Minute D39:Hour
	Check SUM	D44	VALUE RESULTED FROM INTEGRATION OF D36 TO D43 AND INVERSION OF INTEGRATED VALUE
3	REC_ID	D46,D47	REC_ID=Sec+Min+Hour+0x0011 +(VALUE RESULTED FROM LEFTWARD SHIFT BY 8 BITS OF FRAME COUNTER)
4	Model Name	D52,D53	
	VTR Serial No.	D54 --> D56	Serial No.
	Destination	D57	
5	Date of Recording	D58 --> D61	
6	VTR status	D62	INFORMATION ON RECORDING FREQUENCY AND NUMBER OF LINES
			B0:EXISTENCE OR ABSENCE OF 0.1% WITH RESPECT TO Frame FREQUENCY 0:0.1% ON 1:0.1% OFF
			B1:NUMBER OF VALID LINES 0:1035 1:1080
			B2:SELECTION OF SDI OR SDTI 0:SDI 1:SDTI(DUB)
			B4,B3:Frame FREQUENCIES 00:30Hz 01:25Hz 10:24Hz
			B5:SELECTION OF Interlace OR PsF 0:Interlace 1:PsF
			RELATION BETWEEN B5,B4,B3 AND B0 AND SYSTEM FREQUENCY B76543210 XX000XX0 59.94i XX000XX1 60i XX001XX1 50i XX100XX0 29.97PsF XX100XX1 30PsF XX101XX1 25PsF XX110XX0 23.98PsF XX110XX1 24PsF

FIG.9

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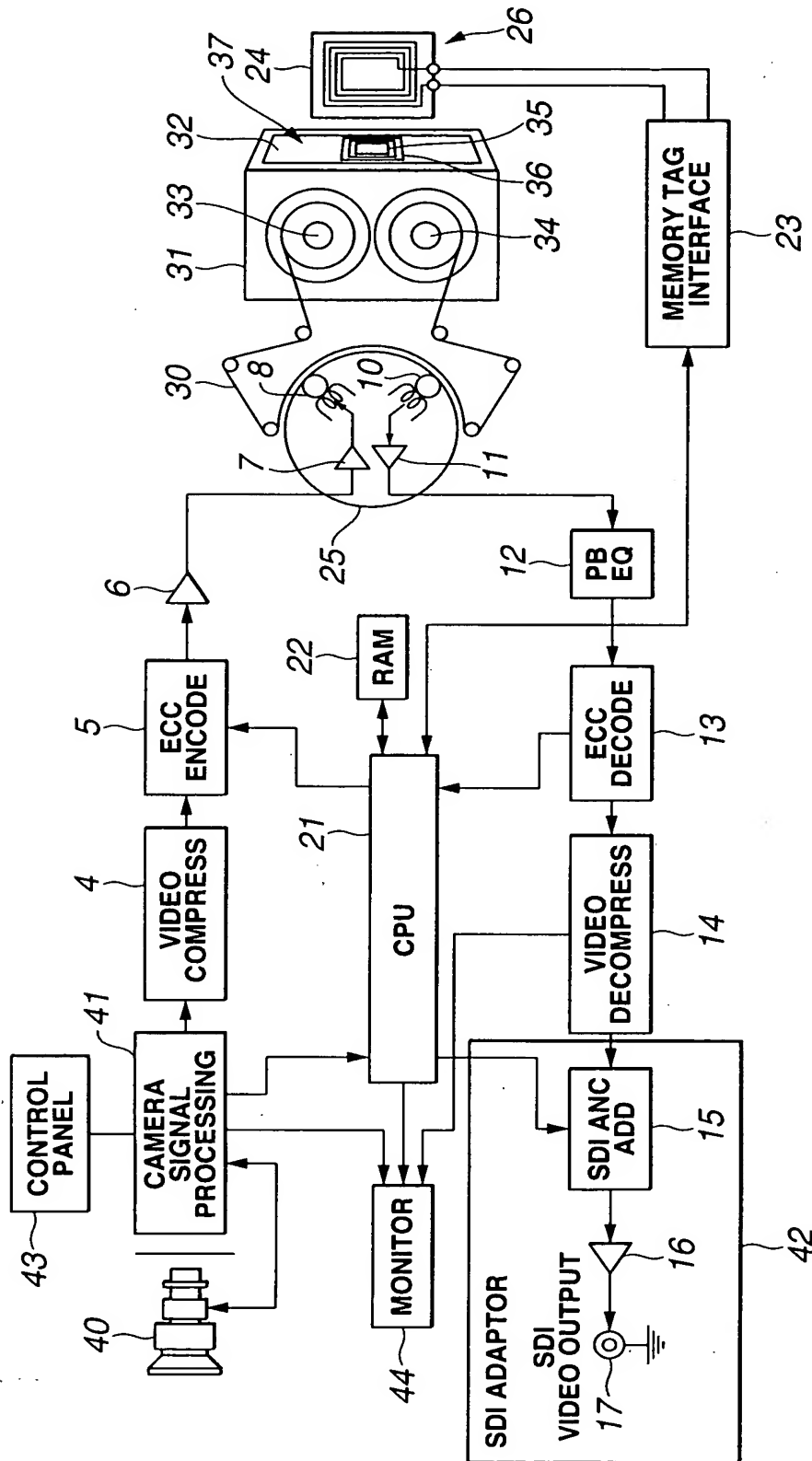


FIG.10

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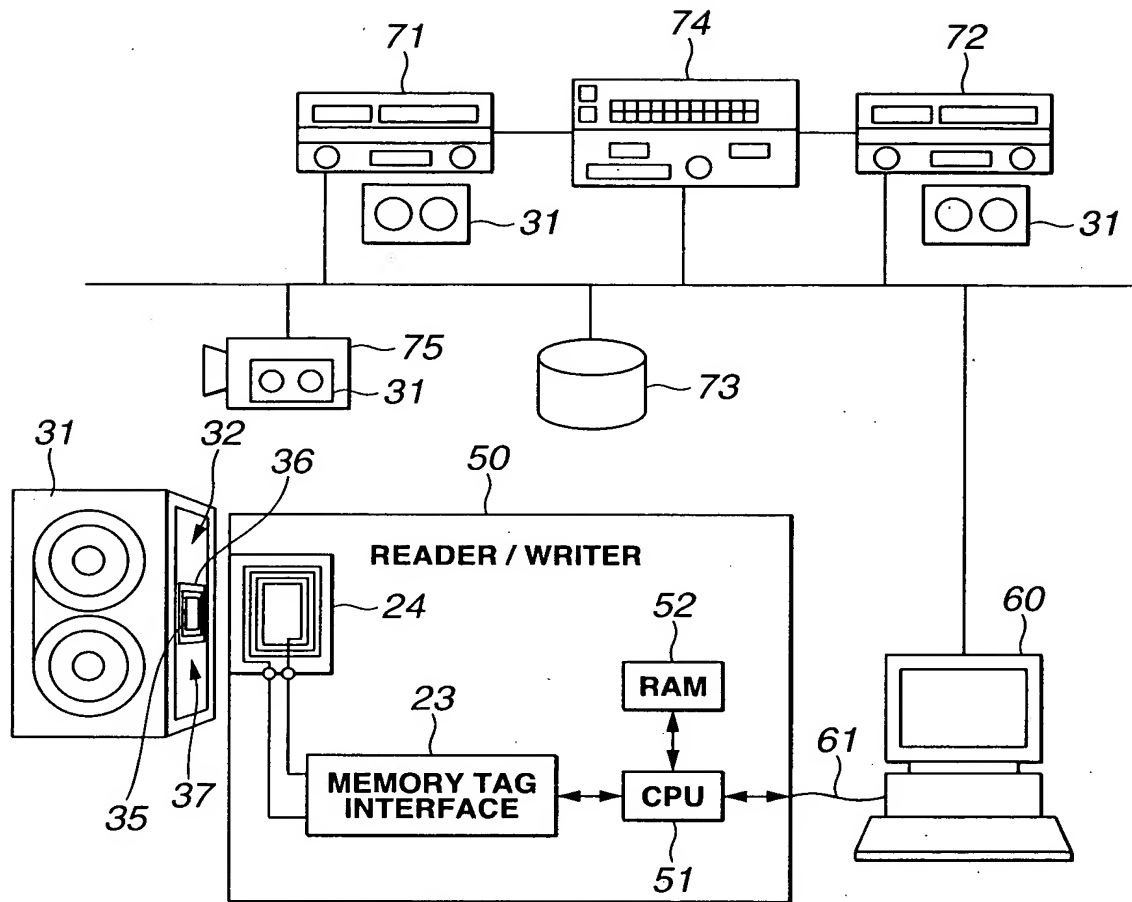


FIG.11

Block No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000	Memory Management Table															
0001	Manufacture ID Table															
0002	Format Definition Table															
0003	Common Area															
nnnn																

FIG.12

Offset Address (Byte)			
0	Memory_size		04h
1		(Hamming 8/4 code)	00h
2	Manufacture_code	MANUFACTURER	03h
3		(Hamming 8/4 code)	00h
4	Version	VERSION	01h
5	Lot_number		
6			
7	Reserve	00h	00h
8	Application_id	APPLICATION (01h Read/Write Media)	01h
9		(Hamming 8/4 code)	
10	Media_id	LABEL SHAPE	82h
11		(Hamming 8/4 code)	00h
12	Application_id	Reserve	00h
13	Dependent Field		00h
13			00h
13			00h

FIG.13

Offset Address	MSB 7	6	5	4	3	2	1	LSB 0
0	Reserve	Memory_size=(bit0~bit6)×256Bytes						
1	00h							

FIG.14

Offset Address	MSB 7	6	5	4	3	2	1	LSB 0
5	<Day>							<Month>
6	>	<Year>						UD

FIG.15

Offset Address (Byte)		
0	VIDEO SOURCE DEVICE ID	2 DIGITS (BCD) (VIDEO SOURCE DEVICE ID AT MANUFACTURER)
1	ID	HUNDRED THOUSANDS AND TEN THOUSANDS (BCD)
2	ID	THOUSANDS AND HUNDREDS (BCD)
3	ID Reserve	TENS AND ONES (BCD)
4	Reserve	Reserve 00h
5	(FIXED VALUE)	7Fh,02h,00h,00h,01h,05h,20h,OFFh,OFFh,OFFh,OFFh
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

FIG.16

Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7
Media_ID	Lot_Number			ID (Block #0001 byte0~byte4)			

FIG.17

$$P1 = 1 \oplus D1 \oplus D3 \oplus D4$$

$$P2 = 1 \oplus D1 \oplus D2 \oplus D4$$

$$\mathbf{P3} = \mathbf{1} \oplus \mathbf{D1} \oplus \mathbf{D2} \oplus \mathbf{D3}$$

$$\mathbf{P4} = \mathbf{1} \oplus \mathbf{P1} \oplus \mathbf{D1} \oplus \mathbf{P2} \oplus \mathbf{D2} \oplus \mathbf{P3} \oplus \mathbf{D3} \oplus \mathbf{D4}$$

⊕ EXCLUSIVE OR

FIG.19

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HEX.	HAMMING BASE 8/4 BINARY
0	10101000
1	00001011
2	00100110
3	10000101
4	10010010
5	00110001
6	00011100
7	10111111
8	01000000
9	11100011
A	11001110
B	01101101
C	01111010
D	11011001
E	11110100
F	01010111

FIG.20

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LOW	HIGH
04h	00h

FIG.21

Offset Address (Byte)		
0	Keyword Code	KEY CODE FOR REWRITING BLOCK NO. 0002 FFh AND FEh FIXED VALUES
1		
2	Application Name & Version	APPLICATION NAME
12		
13		
14		
15	Country Number	COUNTRY NO. (BCD) EX. UNDEFINED 00h JAPAN 00h USA 00h 00h 81h 01h

FIG.22

Block No.	Address	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
#0003	0030	Cassette ID															
#0004	0040	> <				Data Base Key											
#0005	0050	> <															
#0006	0060	Title															
#0007	0070	Administrator															
#0008	0080	Serial No.				Model Name											
#0009	0090	Pointer	EOSR_ID		RS	RT	EOS Point				Thread		Update				
#000A	00A0	DataTOPP	FAT Definition			Reserve				FQ		ADStatus					
#000B	00B0	Data Area															
↑	↓	↑ ↓															

FIG.23

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Byte0	Byte1	Byte2	Byte3
LL	LH	HL	HH (NUMBER OF SIGNIFICANT DIGITS)

FIG.24

BYTE0	BYTE1
L	H
Max. FFFFh	

FIG.25

1070034

10070034-070902
1070034

MSB7	6	5	4	3	2	1	LSB0
NOT YET MEASURED	TOP/ END	(N EOT)	END OF TAPE	CASSETTE SIZE 00:S,01:M,10:L		Reserve	

FIG.26

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TAPE STATUS	Bit6	Bit4
TOP	0	1
MIDDLE	0	0
END	1	1

FIG.27

	MSB 7	6	5	4	3	2	1	LSB 0
DATA-1	CF	DF	10F				1F	
DATA-2			10S				1S	
DATA-3			10M				1M	
DATA-4			10H				1H	

FIG.28

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BYTE0	BYTE1
L	H
Max. 7FFFh	

FIG.29

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Block No.	Address	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
#0009	0090	00	06	00	00	00	00	00	00	00	00	07	00	19	98	05	06
#000A	00A0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
#000B	00B0	01	00	15	59	59	23	00	00	00	00	00	00	00	00	00	00

FIG.30

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BYTE0	BYTE1
L	H
Max. FFFFh	

FIG.31

10070034 070802

10070034 070802
10/070034

Offset Address	MSB 7	6	5	4	3	2	1	LSB 0
0	Reserved							
1	Stored FAT Count (LOWER 8 bits)							
2	Stored FAT Count (UPPER 8 bits)							

FIG.32

MSB7	6	5	4	3	2	1	LSB0
Interrace Mode	Reserve	Recording Bit Rate			Recording Video Frequency		

FIG.33

Offset Address	MSB 7	6	5	4	3	2	1	LSB 0
0	AUDIO Status(CH-2)				AUDIO Status(CH-1)			
1	AUDIO Status(CH-4)				AUDIO Status(CH-3)			
2	AUDIO Status(CH-6)				AUDIO Status(CH-5)			
3	AUDIO Status(CH-8)				AUDIO Status(CH-7)			

FIG.34

Block No.	Address	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F		
#000B	00B0	<	Extended Area Format ID									Format Version							
#000C	00C0	Reel Name			EDL File Name														
#000D	00D0	Stocked Floor No.		Stocked Shelf No.				Stocked Step No.		Stocked Position									
#000E	00E0	Reserve																	
#000F	00F0	Reserve																	
#0010	0100	<																	
#0011	0110	Comment																	
#0012	0120	>																	
#0013	0130																		
↑	↑	↑ ↓																	

FIG.35

2	4	4	4	4	3	4	1	1	4	4	4	Max.53	ARBITRARY (Bytes)
Status	CUE Point	IN Point	OUT Point	Scene No.	Cut No.	Take No.	Re-Served	Real Time	Date	UMID	Additional Information		

Bit NOS.15 14 13,...,0

FIG.36

Status	CUE DATA			
01h	00h			

FIG.37

Status		CUE DATA				IN DATA				OUT DATA			
07h	00h												

FIG.38

Classification	Flow/Mode/ DataSize (UPPER)	DataSize (LOWER)	Data
----------------	--------------------------------	---------------------	------

FIG.39

	MSB 7	6	5	4	3	2	1	LSB 0
Classifi- cation	Classification+0							
Classifi- cation+N								
Flow/Mode /Data B.C.	Delimiter 1:Limit	Flow	Mode	Data Byte Count (UPPER 4 Bits)				
Data B.C.	Data Byte Count (LOWER 8 Bits)							
	Data0 DataN							

FIG.40

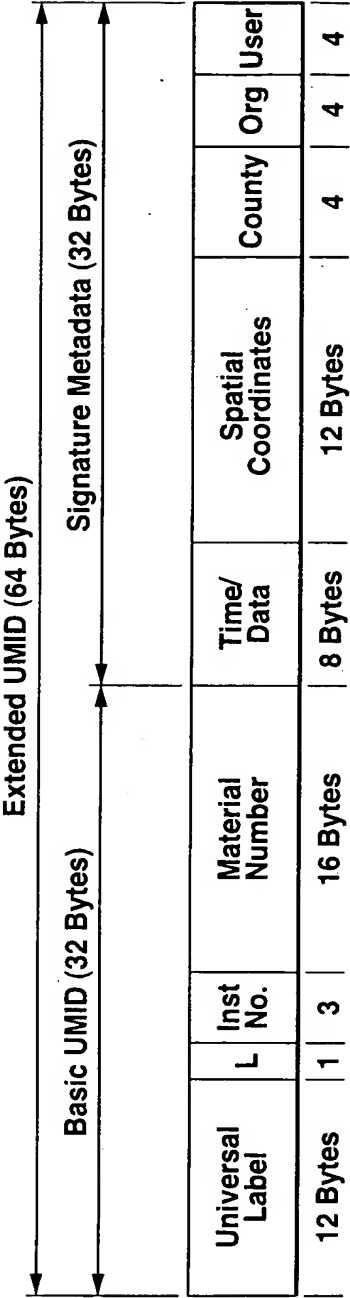


FIG.41

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Time Snap(data omitted)				Rnd	
Frame	Second	Minute	Hour	Lower	Upper

FIG.42

Universal Label		Instance Number			Material Number (16 Bytes)															
					Time Snap (8 Bytes)								Rnd		Machine Node (6 Bytes)					
					low	mid	up	Frame	Sec	Min	Hour	MJDI			MJDm	MJDu	Tzone	Low	up	1st
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

FIG.43

Basic UMID(21 Bytes)										Signature Metadata(32 Bytes)																						
U.L. Instance 12,3 Number		Material Number (16)								Time/Data stamp(8)		Spatial coordinate(12)				Country Code		Organi- zation		User Code												
		Time Snap (8)				Rnd				Machine Node (6)		Time		Data								Altitude		Longitude		Latitude						
0			5				10				15				20				30			35			40			45			50	

FIG.44

FIG.45A

01	84	00	30	59	23	04	11	00	00	00	29	52	59	10	95	44	05	97	DF	3D	89	27	00	02	04	43
FLAG		CUE										UMID														
01	82	00	45	59	23							12	00	00	11											

FIG.45B

01	82	00	45	59	23	12	00	00	11	2E	D5
----	----	----	----	----	----	----	----	----	----	----	----

06 0E 2B 34 01 01 01 01	01 05 01 02 00 00 00 00	0D	54 68 65 20 54 65 6C 65 2D 46 69 6C 65
DECLARATION	MAIN TITLE CODE	LENGTH	13 ASCII CHARACTERS REPRESENTING TITLE ("The Tele-File")

FIG.46

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06 10	00 00 00 01	00 00 05 01	4D 80 16	01 05 01 02 00 00 00 00	0D	54 68 65 20 54 65 6C 65 2D 46 69 6C 65
FLAG	In 01:00:...	Out 01:05:...	HEADER	MAIN TITLE CODE	LENGTH	13 ASCII CHARACTERS REPRESENTING TITLE ("The Tele-File")

FIG.47

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01	05	01	02	00	00	00	00	00	0D	54	68	65	20	54	65	6C	65	2D	46	69	6C	65
01	05	01	03	00	00	00	00	00	0B	41	70	70	6C	69	63	61	74	69	6F	6E		
04	01	01	03	04	00	00	00	00	01	1E												

FIG.48

01 10	00 30 58 00	4D 80 0B	04 01 01 03 04 00 00	01 1E
01 10	00 00 00 01	4D 80 16	01 05 01 02 00 00 00	0D 54 68 65 20 ...
01 10	00 00 05 01	4D 80 14	01 05 01 03 00 00 00	0B 41 70 70 6C ...
01 00	00 00 10 01			

FIG. 49

[illegible]

FIG. 50

3FF	000	000	2D8	...	EAV
000	3FF	2F0	101	120	...ANC for Meta-data, data count=32
206	10A	22B	134	101	101 101 101 101 104 211 ...universal label
113					... length
200	200	200			...instance
129	152	259	110	295	244 205 197 ...time snap
1DF	13D				...random
189	227	200	102	104	143 ... machine node

FIG.51

[illegible]

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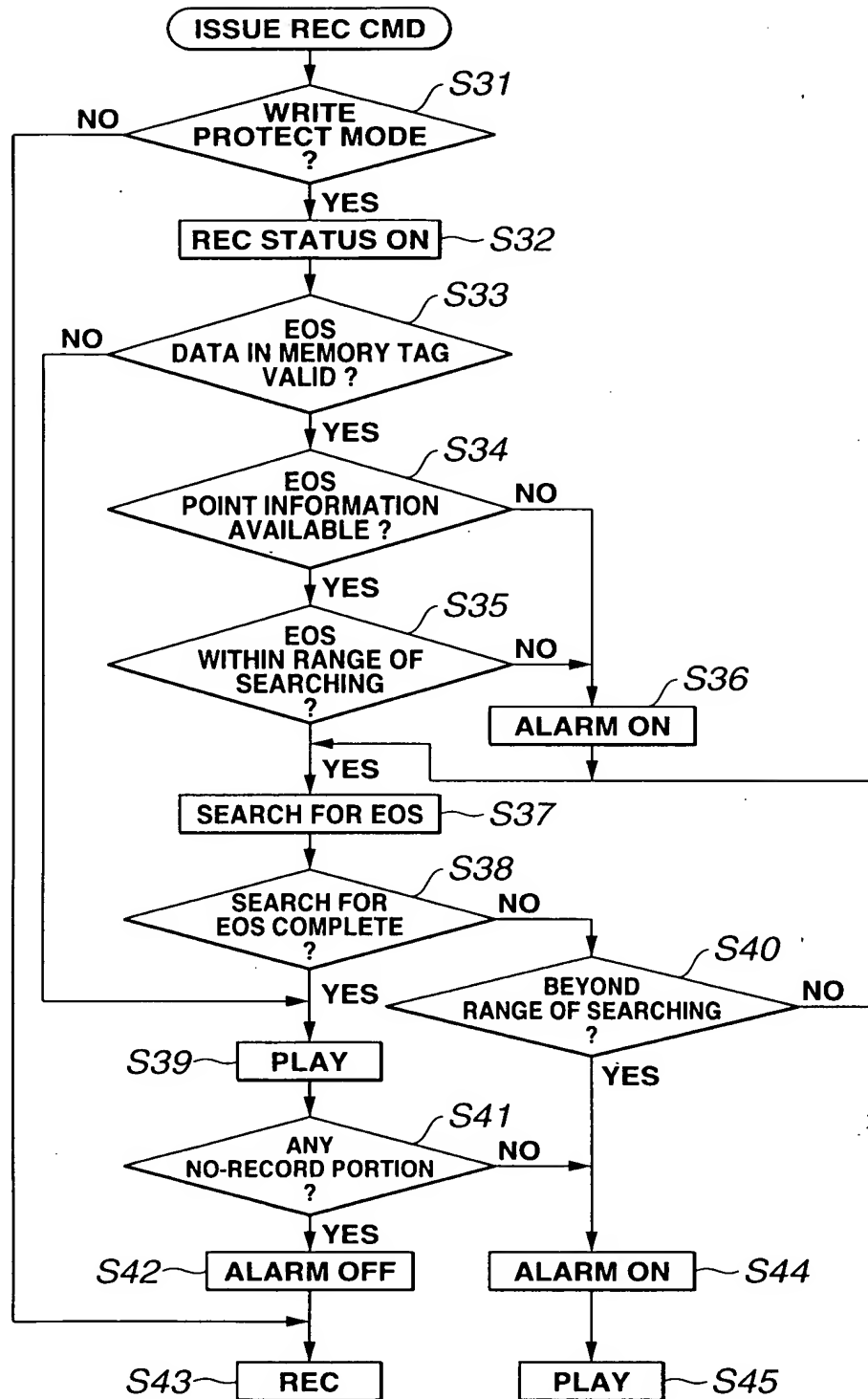


FIG.53

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FIG.54A

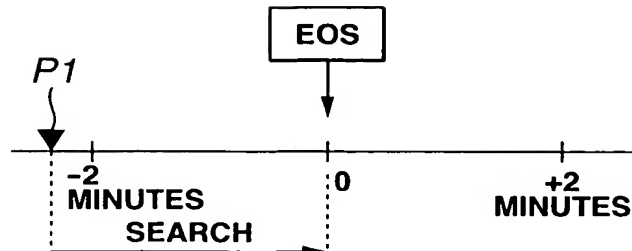


FIG.54B

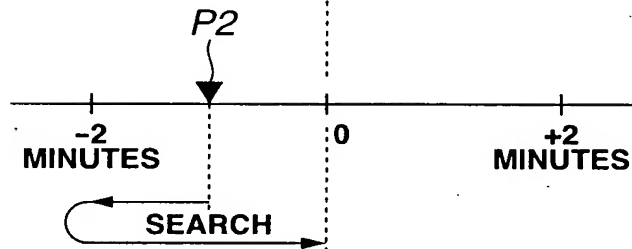


FIG.54C

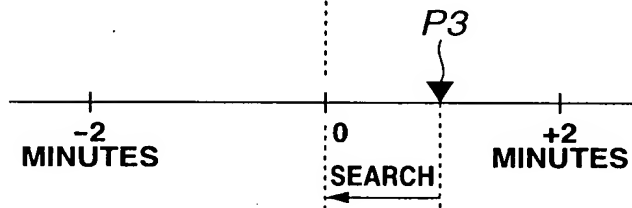
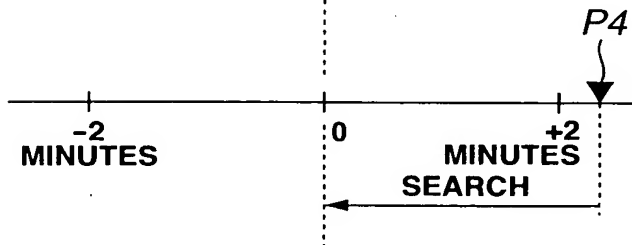


FIG.54D



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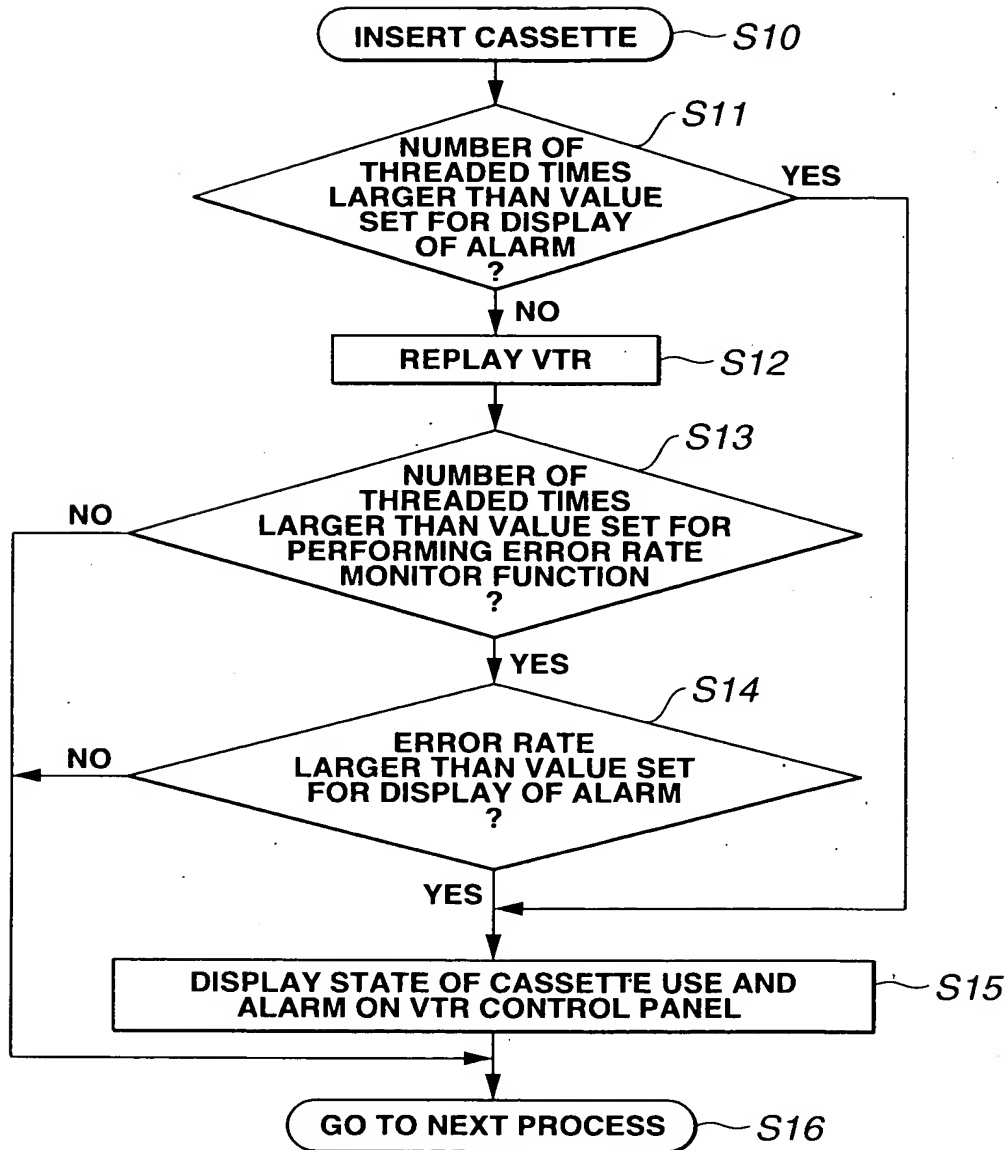


FIG.55

TAPE ID	TITLE	INTENDED USE	NUMBER OF THREADED TIMES	JUDGE	COMMENT
HD-10001	FROM SOUTHERN COUNTRY	LIBRARY	6	EXCELLENT	
D2-22029	OSAKA KIN-YU-DO	DRAMA	20	FAIR	
SX-23478	"MIMI-NO-KUNI" WORDS OF PRIME MINISTER HAYASHI	SHARING	100	NOT FAIR	TO BE VOIDED ON JUNE 19,2000
IMX-67870	K2 GRAND PRIX	SHARING	20	GOOD	

FIG.56

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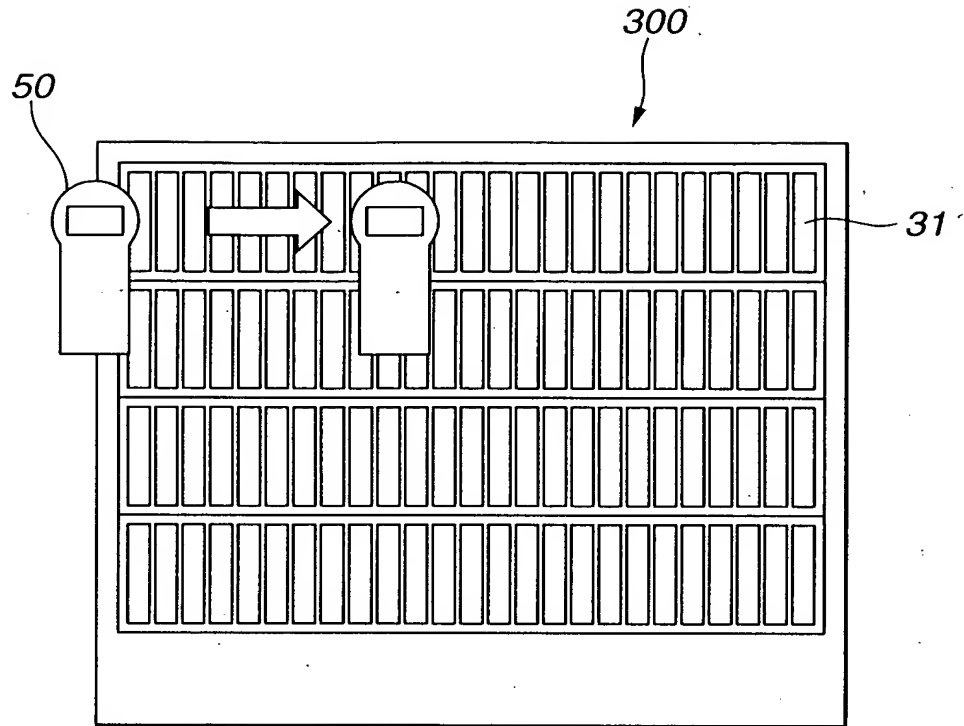


FIG. 57

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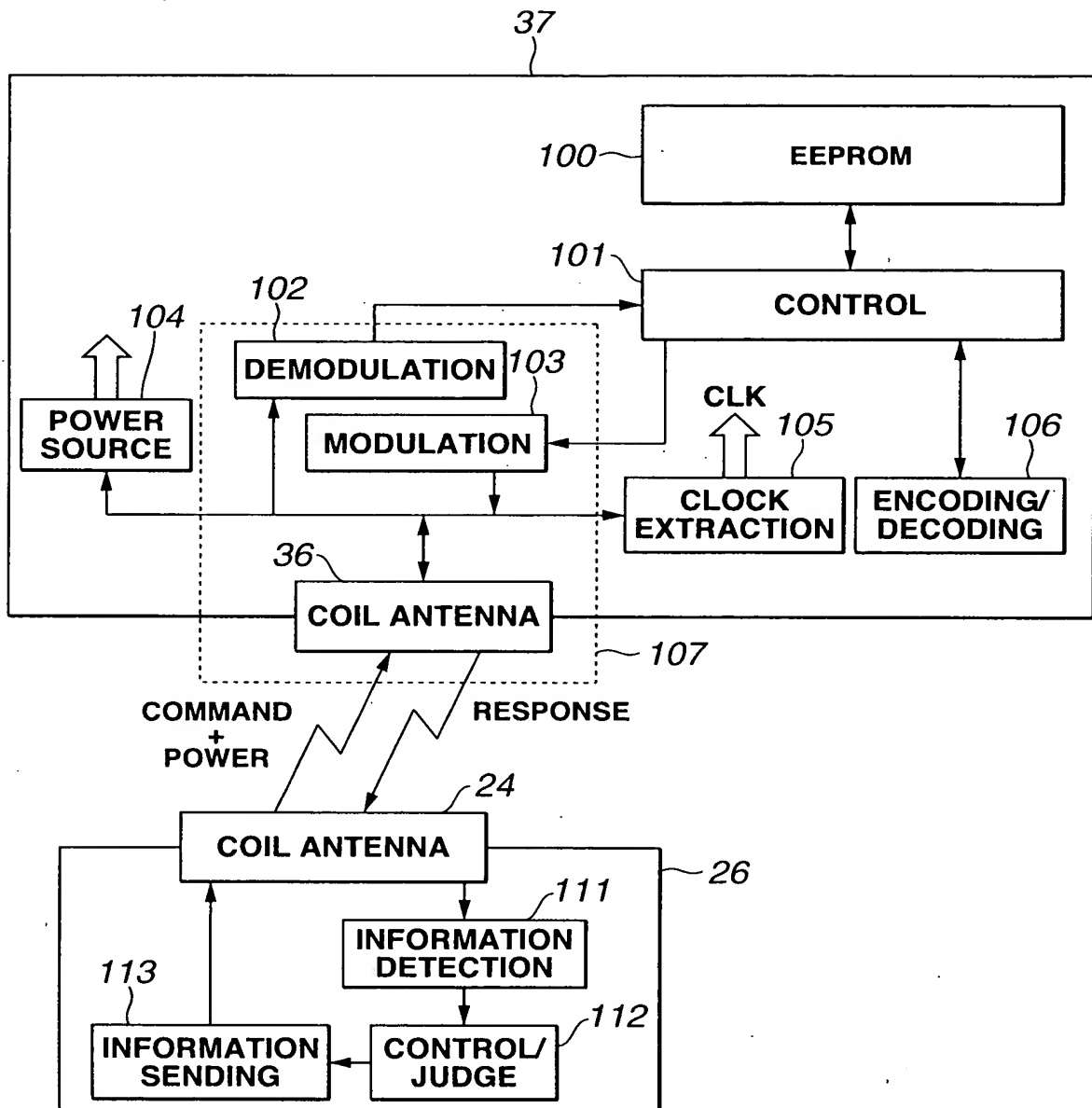


FIG.58

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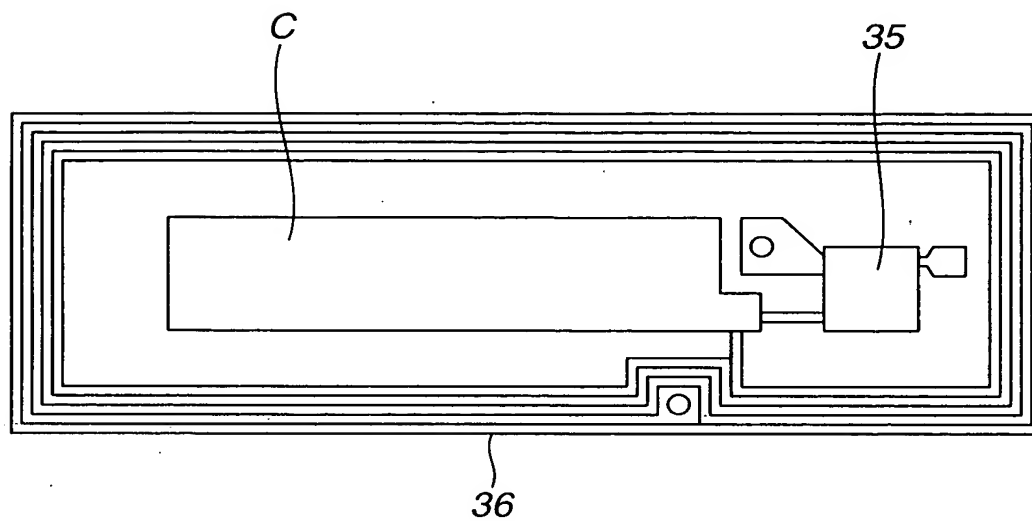


FIG. 59

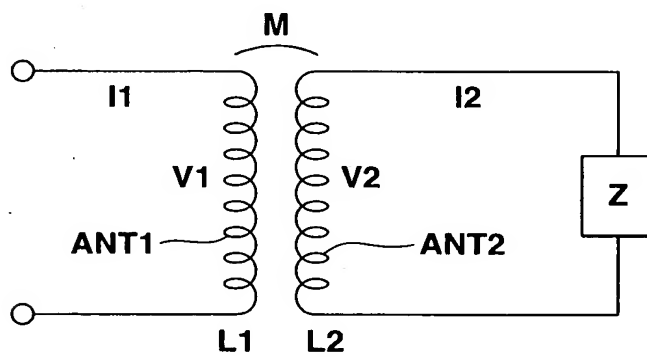
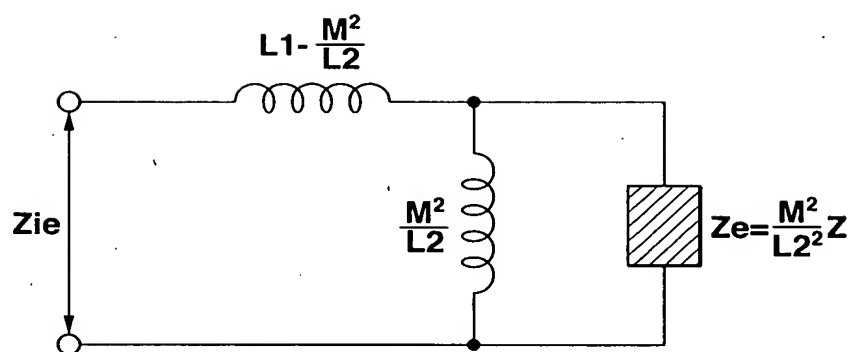


FIG. 60

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$$Z_{ie} = j\omega(L1 - \frac{M^2}{L2}) + \frac{1}{\frac{L2}{j\omega M^2} + \frac{L2^2}{M^2 Z}}$$

FIG.61

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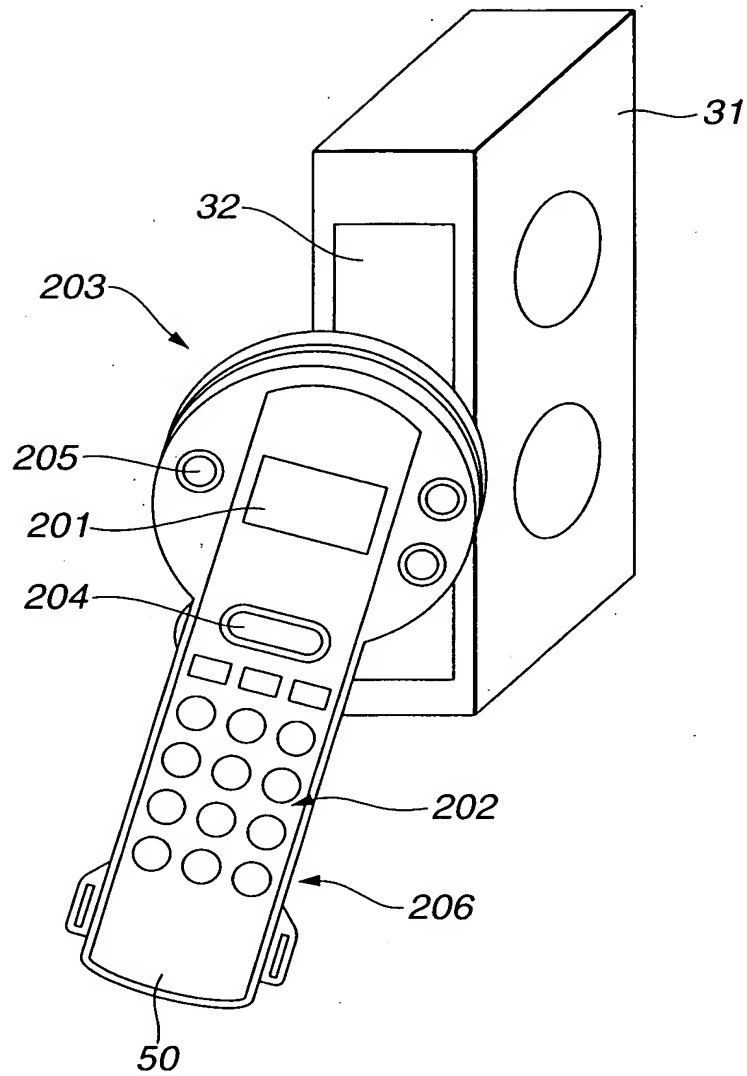


FIG. 62